

# C51 Reservoir Update

Broward County Water Resources  
Task Force

April 1, 2011

# Why the Reservoir?

- **Mounting Pressures on Traditional Water Resources**
- **Population Growth**
  - Extended time frame
  - Improved conservation
- **Competing Demands for “Cheap” water**
  - Environmental Restoration
  - Irrigation (Agricultural, Residential, Commercial)
  - Electrical generation
  - Municipal utilities

# Current Alternative Water Supplies



High energy use, high carbon footprint and high cost

- Reclaim Water for irrigation

- Limited area

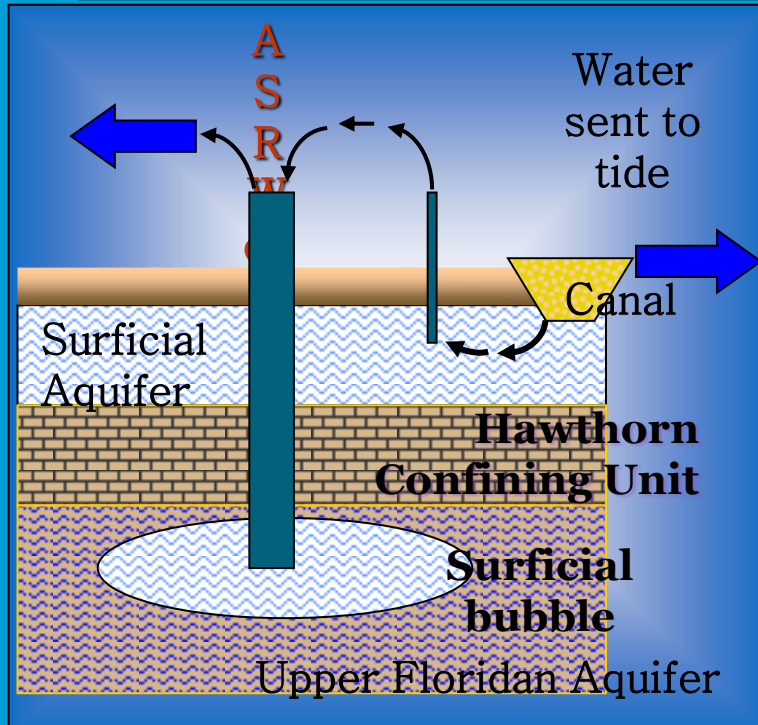
- Dry season use

- ASR wells

- Low recovery %

- Arsenic concerns

- Reverse Osmosis Plant

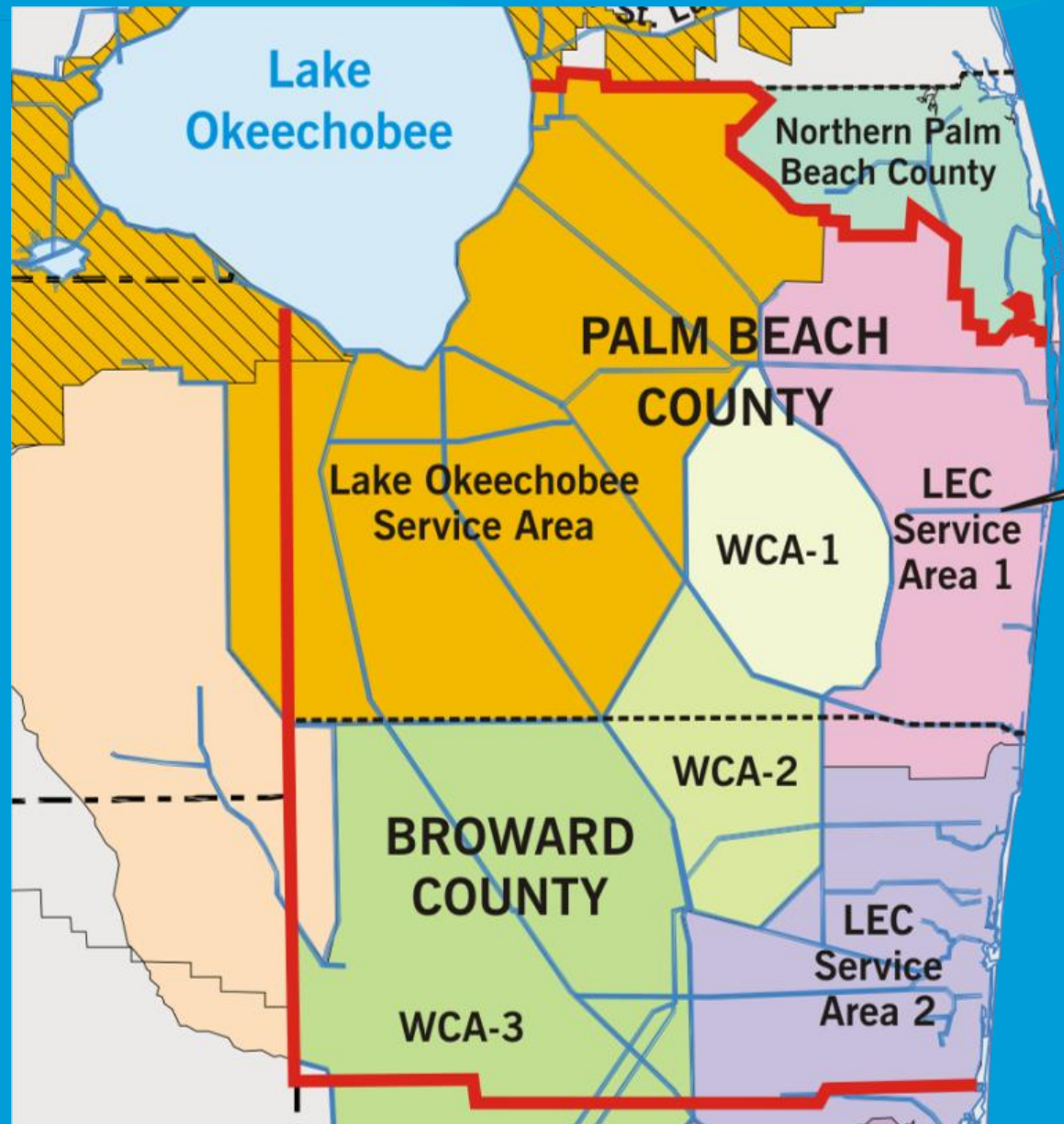


# Storage is the Solution



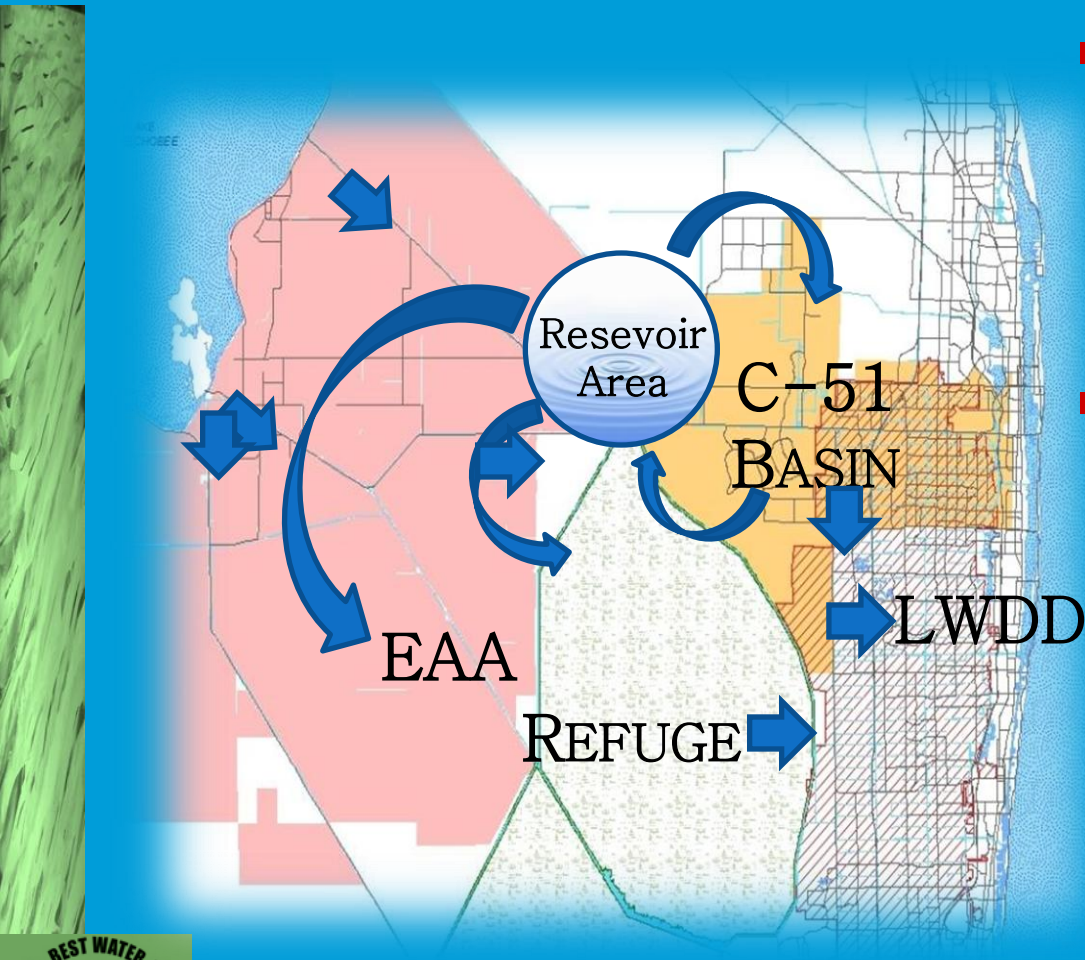
- CERP recognized need for additional water storage
- In Florida: DIFFICULT
  - Flat
  - Expensive
  - Pervious
- One area is suited!
  - Tight geology
  - Location near STA, WCA
  - Room for 75,000 acre-feet

# C-51 Reservoir Overview



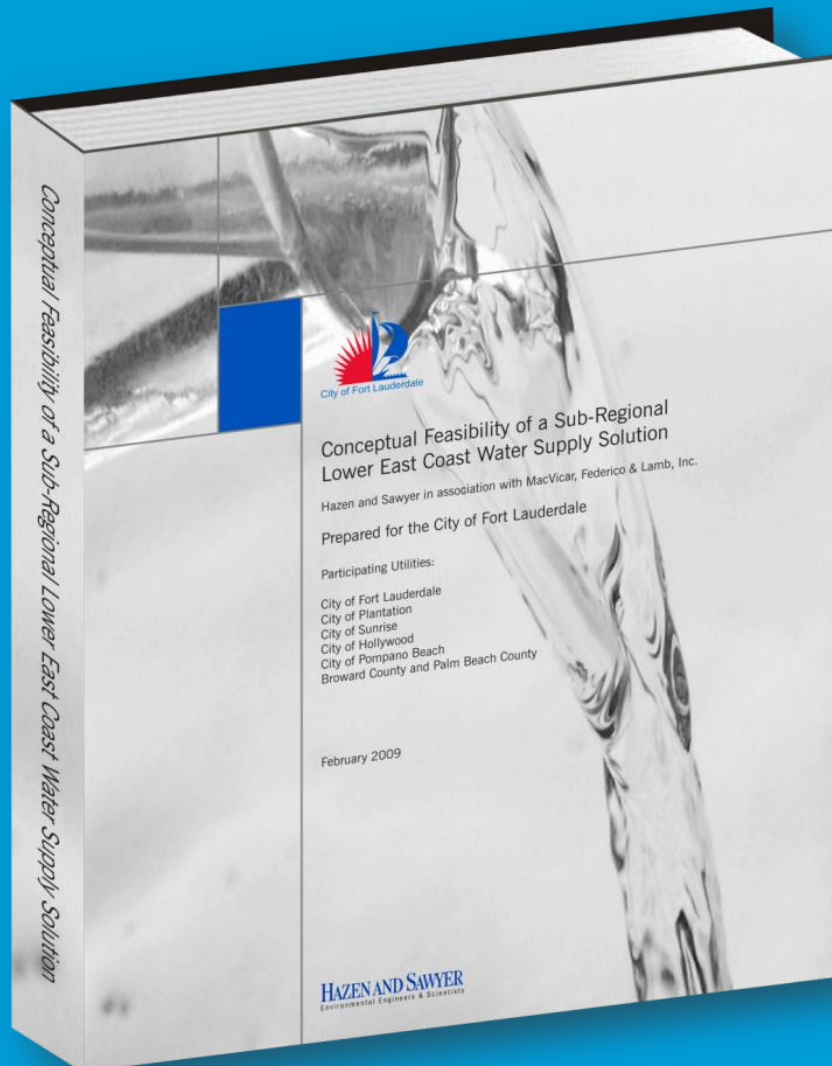


# Sustainable Alternative Water Solution: Capture and Store Stormwater



- Storage Facility
  - Reservoir
  - Pump Stations
- Conveyance to users
  - STA/WCA-1
  - LWDD

# Original Feasibility Study published in February 2009



- Joint effort – local governments / SFWMD
- Sponsored by 7 “Participating Utilities”
  - Palm Beach County
  - Broward County
  - Pompano Beach
  - Plantation
  - Sunrise
  - Fort Lauderdale
  - Hollywood
- All other utilities in Study Area can benefit

# Who Can Benefit?

- Environment
  - Water for environmental restoration
  - Reduced nutrients to Lake Worth Lagoon
- Municipal Utilities
  - Palm Beach County
  - Broward County
- Agriculture?
- Industry?



# What are Environmental Benefits?



- Manage Flows to WCA-1 for Environmental Restoration
- Decreased Sediment Load to Lake Worth Lagoon
  - ⊗ Reduced Turbidity
  - ⊗ Increased Light Penetration
  - ⊗ Improved Bio-Diversity
  - ⊗ Improved Water Quality

# Municipal Utility Benefits?



- Additional water supply
- Existing wellfields recharged w/ fresh water
- Use existing water plants
  - Less energy use
- Lower carbon footprint
- Lower cost
- Sustainable from rainfall

# SFWMD Board Direction

- Governing Board October 13, 2010 – presentation on the Broward County Water Resources Task Force Report
- Proposed C-51 reservoir project study was highly ranked
- Board discussed potential benefits to Everglades restoration efforts to meet water quality obligations
- Board directed staff to take the lead in developing consensus for this major regional water supply project

# Current and Future Actions

## Memorandum of Understanding

- Water Availability: SFWMD modeling
- Potential Users: Utilities future water needs
- Natural System Needs: SFWMD to identify
- Initial Feasibility Determination
- Governance and Permitting Decisions
- Conveyance Decisions
- Public Communication

# Memorandum of Understanding

- Non-binding
- Signatories
  - Lake Worth Drainage District
  - Palm Beach County Utilities
  - City of Fort Lauderdale
  - SFWMD
  - Joinder – Allows other parties to participate
- Initial Feasibility Determination
  - Does project meet participants objectives

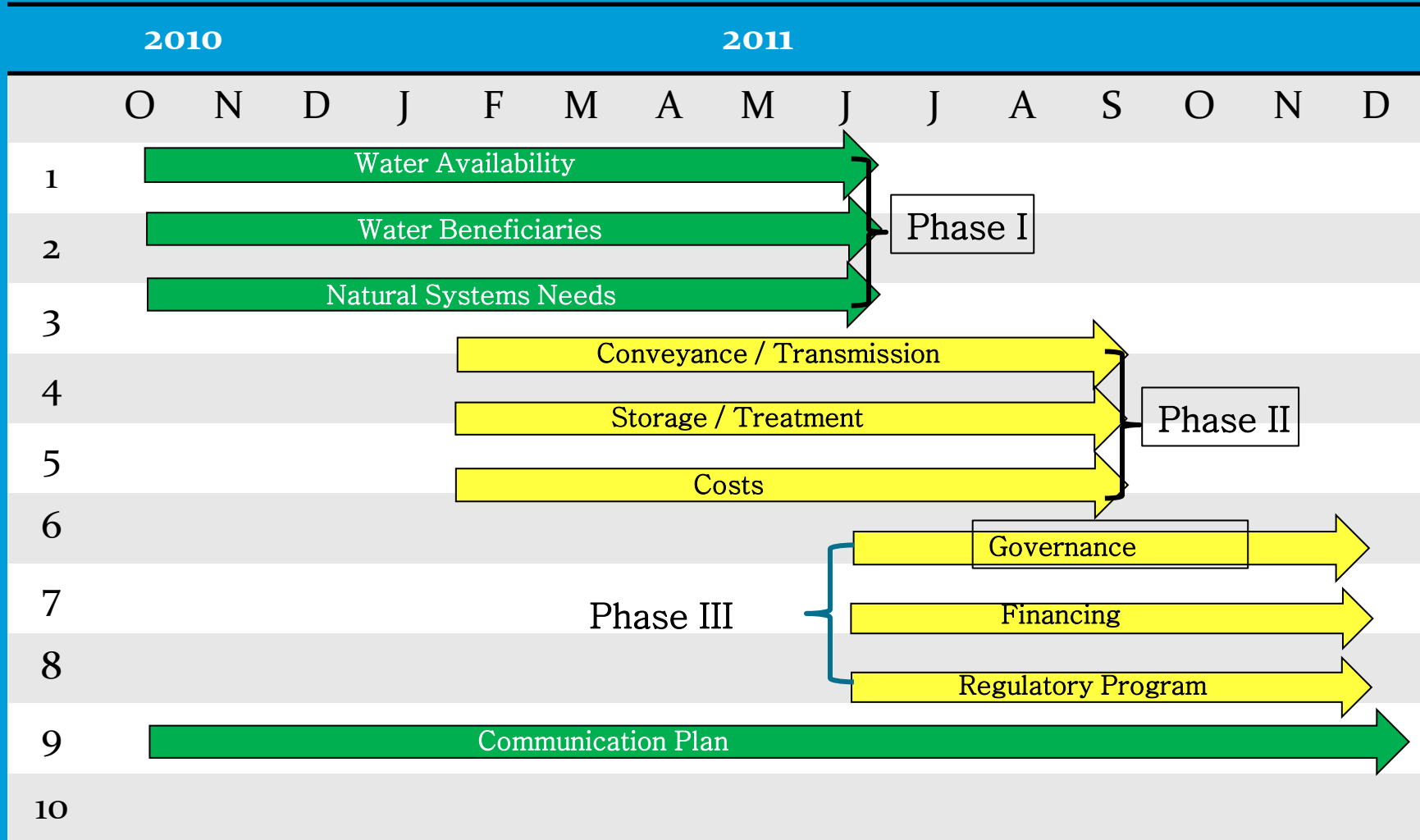


# Future Agreements

## Funding Participation

- Preliminary Project Design and Cost Estimate: All Parties
  - Conveyance Routes:
  - Storage and Treatment
  - Report

# C-51 Reservoir Partnership Study



# Pending Activities

- SFWMD Board approval of the MOU: April 14, 2011
- Formation of the Steering Committee
  - SFWMD Senior Staff
  - LWDD
  - Utilities
- SFWMD Modeling
  - Water Availability
  - Reservoir Operations
- Water Needs
  - Utilities, Environment

**Thank you**

Comments and  
Questions